



Curriculum Vitae

Personal Information

Surname / Name

Address

Phone

E-mail

Nationality

Date of Birth

Gender

Desired employment / Occupational field

Work experience

Dates

Occupation or position held

Main activities and responsibilities

Giusti Alessandro

via Morgampo, 22
21019 Somma Lombardo, VA
ITALY

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alessandro.giusti@polimi.it

Italian

Jan, 15 1982

Male

Computer Scientist / Researcher Image Processing / Computer Vision Specialist

October 2005 - present

Research duties

Theoretical and Design/Implementation work in **Image Processing**, **Computer Vision** and **Computer Graphics** (partly during PhD studies):

- Fast **automated acquisition and processing** of large datasets of **biological microscopy imagery** for High Throughput Testing (developed during a traineeship at JRC - IHCP - InViTech). **Automation** and unattended **microscopy image analysis** and measurement for the optimization of In Vitro Fertilization Procedures (Swiss research project Intelligent Invitro Incubator IN3).
- **3D Reconstruction** for human-computer interaction, mobile robotics (Rawseeds EU-funded project) and machine vision applications
- Theory and algorithms for photometric and geometric **interpretation of motion-blurred images**; applications to the animation of still photographs, temporal superresolution, image forensics, resource- and light-constrained visual surveillance in wireless camera networks
- DSP implementation of algorithms for **smart cameras**: low level processing (demaicing), surveillance applications (license plate recognition, robbery detection)
- Innovative techniques for the **calibration** of rangefinder-camera systems and perspective cameras
- Visualization and user-friendly navigation of network-streamed **gigapixel-class images** with smooth zoom and pan in exposition environments. Consultancy work for Leonardo3, via

Montenapoleone, Milano.

Wireless Sensor Networks: research and development of algorithms for **improving sensing coverage** and communication in power-aware Wireless Sensor Networks.

Context-Aware Information Systems (up to June 2006): Design and implementation of an innovative multichannel adaptive information system for **portable devices**. Stand responsible during the presentation of the FIRB MAIS project results.

Name and address of main employers

Dalle Molle Institute for Artificial Intelligence (IDSIA), Galleria 2
Dipartimento di Elettronica e Informazione, Politecnico di Milano, Piazza Leonardo, Milano

Type of business or sector

Research in Computer Science

Dates

2003 - present

Occupation or position held

Teaching duties

Main activities and responsibilities

Teaching Assistant for classes at Politecnico di Milano:

- "Visione Artificiale" (Computer Vision), 2nd semester 2005/2006 (italian)
- "Image Analysis and Synthesis", 1st semester 2006/2007, 2007/2008, 2008/2009 (english)
- "Advanced Topics for Image Analysis", 2nd semester 2007/2008 (english)
- "Computer Vision", 2nd semester 2006/2007, 2007/2008, 2008/2009 (english)
- "Informatica 1", 1st semester 2007/2008 (italian)
- "Multiview Geometry and Applications to Computer Vision", seminars during an intensive course on "Mathematical Tomography" of the Athens european network.

Lab teacher and responsible for classes:

- "Ingegneria del Software" (Software Engineering), 2nd semester 2005/2006, 2006/2007, 2007/2008 and 2008/2009.
- "Informatica 1" (C Programming), 1st semester 2006/2007, 2007/2008 and 2008/2009

Lab tutor for C Programming classes, 2003/2004, 2004/2005, 2006/2007.

Name and address of employer

Dipartimento di Elettronica e Informazione, Politecnico di Milano, Piazza Leonardo, Milano

Type of business or sector

High education

Dates

2004 - 2006

Occupation or position held

Technical writer

Main activities and responsibilities

Freelance contributor to several **technical magazines** and news websites (www.linux.com, www.newsforge.com, www.osnews.com)

Name and address of employer

VA Software Corp. 46939 Bayside Parkway. Fremont, CA 94538

Dates

2003 - 2007

Occupation or position held

Teaching and organization of IT-related courses and seminars.

Main activities and responsibilities

Teacher and organizer for lectures (Java, Software Engineering, SQL and database, Advanced Excel, Linux, Information Systems) for several companies and institutions (Alcatel, Provincia autonoma di Bolzano, API Milano, Fondazione IARD Milano and others)

Name and address of employers	Verbano Informatica, Viale Italia 21/23 20099 Sesto San Giovanni (MI) Forma.Service, via Bicetti 1 20156 Milano (MI)
Type of business or sector	Teaching and Education
Dates	2001 - 2007
Occupation or position held	Freelance Software developer and Consultant
Main activities and responsibilities	Design, implementation, deployment and maintenance of cutting-edge graphics and multimedia related software for museums, scientific and didactic software, web-based information systems, accounting software.
Dates	2000 - present
Occupation or position held	Teacher
Main activities and responsibilities	Piano teacher

Education and training

Dates	2006 - 2008
Title or qualification awarded	PhD with merit in Computer Science (finished Dec. 2008, defended in Apr. 2009)
Main topics	Computer Vision (3D reconstruction, image processing). Traineeship at JRC, Ispra on Microscopy Image Acquisition and Processing. See "Research Duties". Secondary research (completed Sept 2006) about duty-cycle optimization in Wireless Sensor Networks.
University	Politecnico di Milano
Level in national or international classification	PhD degree
Dates	2003 - 2005
Title or qualification awarded	Master degree in Computer Science (Oct 2005), score 110 cum laude. Exam score average greater than 29/30
Main topics	Advanced topics in Computer Science, such as Computer Vision, Data Mining, Soft Computing, Robotics, Software Engineering. Thesis about 3D reconstruction from Single Image.
University	Politecnico di Milano
Level in national or international classification	Master degree (Laurea Specialistica)
Dates	2000 - 2003
Title or qualification awarded	Bachelor degree in Computer Science (Oct 2003), score 110 cum laude Exam score average greater than 29/30
Main topics	Computer Science. Thesis about the design and implementation of a DBMS for mobile devices
University	Politecnico di Milano
Level in national or international classification	Bachelor Degree (Laurea di primo livello)
Dates	1992 - 2003
Title or qualification awarded	10-year piano degree (Sept 2003), score 9/10

Main topics
Name and type of
organisation providing
education and training

Piano and complimentary topics
Conservatory (Istituto Musicale Pareggiato)

Dates

1995 - 2000

Title or qualification
awarded

High school degree (Jul 2000), score 100/100.

Main topics

Scientific topics

Name and type of
organisation providing
education and training

Liceo scientifico di Gallarate (VA)

Level in national or
international classification

Diploma di Maturità scientifica

Personal Skills and Competences

Mother Tongue

Italian

Other languages

Self-assessment

European level

English

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
B2	Independent user	C2	Proficient user	B2	Independent user	C1	Proficient user	C2	Proficient user

Valid TOEFL test score: 270/300

Technical skills and
competences

Deep knowledge and experience with **C, Java** and **Matlab**. Fair knowledge of Python and C++.
Libraries and APIs: OpenCV, OpenGL, JOGL, Image Processing Toolbox for Matlab, Java RMI, Java2D, Java3D, Java Advanced Imaging framework (JAI), ImageJ, SWING, AWT and SDL.
Experience with Open Source software for audio-video streaming, transcoding, processing.

Experience with **Wireless Sensor Networks** (mica2 platform): TinyOS, TinyDB.

Tools and languages for **Software Engineering** (UML, JavaDoc), Knowledge Engineering (XML, RDF) and Operation Research. SQL and DataBase design.

Good knowledge of **graphics software**: Adobe Photoshop, the Gimp, Adobe Illustrator and others. 3D modelling software: Blender, Cinema4D, PovRay. Limited knowledge of 3D Studio MAX.

Driving Licence

B driving licence

Additional Information

Publication list

- S. Ceriani et al.: "Rawseeds Ground Truth Collection Systems for Indoor Self-Localization and Mapping: Implementation and Performance Evaluation". **Under Review** for Autonomous Robots journal
- A. Giusti et al.: "Lighting-Aware Segmentation of Microscopy Images for In Vitro Fertilization". **Under Review**
- V. Caglioti, A. Giusti, A. Riva, M. Uberti: "Drawing Motion without Understanding It". **Under Review**.
- A. Giusti et al.: "Segmentation of Human Zygotes in Hoffman Modulation Contrast Images". Proc. of Medical Image Understanding and Analysis (MIUA) **2009**.
- V. Caglioti and A. Giusti: "Recovering Ball Motion from a Single Motion-Blurred Image". Computer Vision and Image Understanding. **2009**.
- L. Palopoli, R. Passerone, A.L. Murphy, G.P. Picco, and A. Giusti: "Solving the Wake-up Scattering Problem Optimally". Proc. of European Conference on Wireless Sensor Networks (EWSN) **2009**.
- V. Caglioti and A. Giusti: "On the Apparent Transparency of Motion Blurred Objects". International Journal of Computer Vision. **2008**.
- A. Giusti: "Modeling and Analysis of Motion Blurred Object Images", PhD Thesis, Politecnico di Milano. **2008**
- V. Caglioti, A. Giusti: "Basic Video-Surveillance with Low Computational and Power Requirements Using Long-Exposure Frames". Proc. of Advanced Concepts for Intelligent Vision Systems (ACIVS) **2008**
- V. Caglioti, A. Giusti, L. Mureddu and P. Taddei: "A Manipulable Vision-Based 3D Input Device for Space Curves". Proc. of International Conference on Articulated Motion and Deformable Objects (AMDO) **2008**
- V. Caglioti, A. Giusti and D. Migliore: "Mutual Calibration of a Camera and Laser Rangefinder". Proc. of VISAPP Workshop on Robot Perception (RoboPerc), full paper. **2008**
- G. Boracchi, V. Caglioti and A. Giusti: "Single-image 3D reconstruction of Ball Motion and Spin from Motion Blur". Proc. of International Joint Conference on Computer Vision and Computer Graphics Theory and Applications (VISAPP) , **2008**.
- A. Giusti, V. Caglioti: "Photometric Properties of Motion Blurred Objects". Proc. of ICCV Workshop on Photometric Analysis in Computer Vision (PACV), **2007**.
- V. Caglioti, P. Taddei, G. Boracchi, S. Gasparini and A. Giusti: "Single-image calibration of off-axis catadioptric cameras using lines". Proc. of the 7th Workshop on Omnidirectional Vision (OMNIVIS), **2007**.
- V. Caglioti, A. Giusti: "Isolating Motion and Color in a Motion Blurred Image". Proc. of British Machine Vision Conference (BMVC) **2007**
- G. Boracchi, V. Caglioti, A. Giusti: "Ball Position and Motion Reconstruction from Blur in a Single Perspective Image". Proc. of International Conference on Image Analysis and Processing (ICIAP) **2007**.
- A. Giusti, A. Murphy, G.P. Picco: "Decentralized Scattering of Wake-up Times in Wireless Sensor Networks". Politecnico di Milano Internal Report **2007**.34.
- A. Giusti, A. Murphy, G.P. Picco: "Decentralized Scattering of Wake-up Times in Wireless Sensor Networks". Proc. of European Conference on Wireless Sensor Networks (EWSN) **2007**.
- V. Caglioti, A. Giusti: "Ball Trajectory Reconstruction from a Single Long-exposure Image". Proc. of Workshop on Computer Vision Based Analysis in Sport Environments (CVBASE) **2006**.
- V. Caglioti, A. Giusti: "Reconstruction of canal surfaces from single images under exact perspective". Proc. of European Conference on Computer Vision (ECCV) **2006**.
- C. Curino, M. Giani, M. Giorgetta, A. Giusti, A. Murphy, G.P. Picco: "Mobile Data Collection in Sensor Networks: The TinyLime Middleware". Pervasive and Mobile Computing Journal, vol. 4, no. 1, pp. 446-469, Elsevier, Dec. **2005**.
- C. Curino, M. Giani, M. Giorgetta, A. Giusti, A. Murphy, G.P. Picco: "Tiny Lime: Bridging Mobile and Sensor Networks through Middleware". Proc. of 3rd IEEE International Conference on Pervasive Computing and Communications (PerCom), March **2005**.
- A. Giusti: "Reconstruction of Canal Surfaces from Single Perspective Images", Master degree (laurea specialistica) thesis, Politecnico di Milano, **2005**
- C. Bolchini, C. Curino, M. Giorgetta, A. Giusti, A. Miele, L. Tanca: "PoLiDBMS: Design and

Software and teaching
material released to the
public

Prototype Implementation of a DBMS for Portable Devices". Proc. of Twelfth Italian Symposium on Advanced Database Systems (SEBD), S. Margherita di Pula, June **2004**.

C. Curino, M. Giorgetta, A. Giusti, A. Miele: "*Portable Light DBMS: PoLiDBMS White Paper*". Politecnico di Milano Internal Report **2003.46**.

C. Curino, M. Giani, M. Giorgetta, A. Giusti, M. Trincavelli: "*MIPS Implementation of Some Very Small DataBases Data Structures*". Politecnico di Milano Internal Report **2003.45**.

A. Giusti: "Portable DBMS: a physically independent Data Access Layer", BS degree (laurea triennale) thesis, Politecnico di Milano, **2003**.

All material is reachable from my homepage at
<http://www.leet.it/home/giusti>